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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/528,434

03/18/2005

Yoshinobu Fujimura

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EXAMINER

PIZIALI, ANDREW T

ART UNIT

PAPER NUMBER

1771

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

12/20/2006

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/528,434	Applicant(s) FUJIMURA ET AL.	
	Examiner Andrew T. Piziali	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/18/05 & 5/16/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). The current specification refers to the drawing as “conventional technology” (page 5) and as a “conventional glass cloth” (page 8). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 2 is objected to because of the following informality: It appears that the word “processing” should read “process.” Appropriate correction is required.

Claim Rejections - 35 USC § 102/103

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2 and 5 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over USPN 5,236,777 to Inoguchi.

Regarding claims 1, 2 and 5, Inoguchi discloses a glass cloth that is composed of a warp yarn and a weft yarn of the same glass yarn (same width) (see entire document including column 1, lines 10-21 the Examples). Inoguchi does not mention the specifically claimed elongation rate, but Inoguchi does disclose that the ratio of the tensile strength in the warp yarn direction to the tensile strength in the weft yarn direction is between 1.2 to 0.8 (Table 2 and Table 6). Therefore, it appears that the glass cloth disclosed by Inoguchi inherently possesses the claimed elongation rate ratio.

The Patent and Trademark Office can require applicants to prove that prior art products do not necessarily or inherently possess characteristics of claimed products where claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes; burden of proof is on applicants where rejection based on inherency under 35 U.S.C. § 102 or on prima facie obviousness under 35 U.S.C. § 103, jointly or alternatively, and Patent and Trademark Office's inability to manufacture products or to obtain and compare prior art products evidences fairness of this rejection, *In re Best, Bolton, and Shaw*, 195 USPQ 431 (CCPA 1977).

In the event that it is shown that the applied prior art does not disclose the claimed embodiment with sufficient specificity, it is noted that Inoguchi teaches that glass cloth treatments may be varied to vary the tensile strengths of the glass cloths. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the treatments, such that the elongation rate ratio was between 1.2 and 0.8, motivated by a desire to obtain a glass cloth with uniform tensile strength.

Regarding claim 2, Inoguchi does not appear to mention the specifically claimed flattening under tension, but Inoguchi does disclose that the glass cloth can be flattened (column 4, lines 7-12). Absent a showing to the contrary, it is the examiner's position that the article of the applied prior art is identical to or only slightly different than the claimed article. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show obvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289 (Fed. Cir. 1983). The applied prior art either anticipated or strongly suggested the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with the applied prior art.

Regarding claim 5, Inoguchi discloses that glass cloth may comprise matrix resin (column 1, lines 10-21 and column 13, lines 31-35).

Claim Rejections - 35 USC § 103

6. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,236,777 to Inoguchi as applied to claims 1, 2 and 5 above, and further in view of USPN 5,100,722 to Nakamura.

Regarding claim 3, Inoguchi is silent with regards to a specific glass cloth thickness, therefore, it would have been necessary and thus obvious to look to the prior art for conventional glass cloth thickness. Nakamura provides this conventional teaching showing that it is known in the art to use a thickness of 0.05 mm (50 μ m) (see entire document including Example 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the glass cloth 50 μ m in thickness motivated by the expectation of successfully practicing the invention of Inoguchi.

Regarding claim 4, Inoguchi is silent with regards to the specific number of glass yarn filaments per tow, therefore, it would have been necessary and thus obvious to look to the prior art for conventional number of glass yarn filaments. Nakamura provides this conventional teaching showing that it is known in the art to use 50 to 1600 filaments having a diameter of 3 to 13 μ m (column 1, lines 61-63). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use 50 to 1600 filaments having a diameter of 3 to 13 μ m motivated by the expectation of successfully practicing the invention of Inoguchi and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

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7. Claims 1, 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 5,236,777 to Inoguchi in view of USPN 3,571,871 to Caroselli.

Regarding claims 1, 2 and 5, Inoguchi discloses a glass cloth that is composed of a warp yarn and a weft yarn of the same glass yarn (same width) (see entire document including column 1, lines 10-21 the Examples). Inoguchi does not mention the specifically claimed elongation rate, but Inoguchi does disclose that the ratio of the tensile strength in the warp yarn direction to the tensile strength in the weft yarn direction is between 1.2 to 0.8 (Table 2 and Table 6). Therefore, it appears that the glass cloth disclosed by Inoguchi inherently possesses the claimed elongation rate ratio.

In the event that it is shown that the applied prior art does not disclose the claimed embodiment with sufficient specificity, it is noted that Inoguchi teaches that glass cloth treatments may be varied to vary the tensile strengths of the glass cloths. In addition, Caroselli discloses that it is known in the art to relieve glass weave stresses to reduce unraveling and/or increase uniformity (see entire document including column 1, lines 2-6 and 57-62 and column 3, lines 70-73). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the treatments and/or relieve glass weave stresses, such that the elongation rate ratio was between 1.2 and 0.8, motivated by a desire to obtain a glass cloth with uniform tensile strength and/or to reduce unraveling and/or increase uniformity.

Regarding claim 2, Inoguchi does not appear to mention the specifically claimed flattening under tension, but Inoguchi does disclose that the glass cloth can be flattened (column 4, lines 7-12). Absent a showing to the contrary, it is the examiner's position that the article of the applied prior art is identical to or only slightly different than the claimed article. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show obvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289 (Fed. Cir. 1983). The applied prior art either anticipated or strongly suggested the claimed subject matter. It is noted that if the applicant intends to rely on Examples in the specification or in a submitted declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with the applied prior art.

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Regarding claim 3, Inoguchi is silent with regards to a specific glass cloth thickness, therefore, it would have been necessary and thus obvious to look to the prior art for conventional glass cloth thickness. Nakamura provides this conventional teaching showing that it is known in the art to use a thickness of 0.05 mm (50 μ m) (see entire document including Example 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the glass cloth 50 μ m in thickness motivated by the expectation of successfully practicing the invention of Inoguchi.

Regarding claim 4, Inoguchi is silent with regards to the specific number of glass yarn filaments per tow, therefore, it would have been necessary and thus obvious to look to the prior art for conventional number of glass yarn filaments. Nakamura provides this conventional teaching showing that it is known in the art to use 50 to 1600 filaments having a diameter of 3 to 13 μ m (column 1, lines 61-63). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use 50 to 1600 filaments having a diameter of 3 to 13 μ m motivated by the expectation of successfully practicing the invention of Inoguchi and because it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability and desired characteristics.

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Conclusion


9. The following patents are cited to further show the state of the art with respect to glass cloth used in printed circuit boards: USPN 4,707,565 to Kasai and USPN 5,217,796 to Kasai.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Piziali whose telephone number is (571) 272-1541. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

atp

 12/14/06
ANDREW PIZIALI
PRIMARY EXAMINER